

REMARKS/ARGUMENTS

The Examiner rejects Claims 35-44 under 35 U.S.C. §112, first and second paragraph, as failing to comply with the written description requirement and being indefinite. Claim 35 has been amended to overcome these rejections.

The Examiner has rejected Claims 23-26 and 28 under 35 U.S.C. §102(a) as being unpatentable over JP 2001-270019 assigned to Shingii; Claims 1, 3-18, and 27 under 35 U.S.C. §103(a) as being unpatentable over Shingii alone or in view of U.S. 3,961,116 to Klein; and Claim 2 under Section 103(a) as being unpatentable over Shingii or in view of Klein as applied to claim 1 above and in further view of U.S. 5,597,637 to Abrams..

Applicant respectfully traverses the Examiner's rejections. The cited references fail to teach or suggest at least the following features of the pending independent claims:

1. A design, comprising:
a plurality of flock fibers;
an *elastic* film having a first side and a second side;
a first adhesive layer bonded to the first side of the *elastic* film and to the plurality of flock fibers, *the first adhesive layer being substantially continuously distributed over the first side of the elastic film*; and
a second adhesive layer bonded to the second side of the elastic film, the second adhesive layer being substantially discontinuously distributed over the second side of the elastic film.

23. A design, comprising:
a plurality of flock fibers;
an *elastic* film having a first side and a second side;
a first adhesive layer bonded to the first side of the elastic film and to the plurality of flock fibers; and
a second adhesive layer bonded to the second side of the elastic film, wherein at least one of the following is true: (i) the elastic film has a modulus of elasticity of less than about 11.25 lb/ft and more than about 0.5 lb/ft, (ii) the elastic film has an elongation of at least about 200%, and (iii) the elastic film has a recovery of at least about 75% after being stretched to 100% of its original length and allowed to retract freely and wherein the first adhesive layer is distributed substantially evenly over the first side while the second adhesive layer is distributed substantially unevenly over the second side.

35. A design manufactured by steps comprising:
- (a) contacting flock with a first permanent adhesive layer;
 - (b) contacting the first permanent adhesive layer with an *elastic* layer, the flock and first permanent adhesive layer being located on a common side of the *elastic* layer; and
 - (c) *contacting the elastic layer with a second adhesive layer, the first and second adhesive layers being located on opposing sides of the elastic layer, wherein at least one of the following is true: (i) the elastic film has a modulus of elasticity of less than about 11.25 lb/ft and more than about 0.5 lb/ft, (ii) the elastic film has an elongation of at least about 200%, and (iii) the elastic film has a recovery of at least about 75% after being stretched to 100% of its original length and allowed to retract freely and wherein the second adhesive layer is a web adhesive while the first adhesive layer is not a web adhesive.*

The Shingii Reference

Shingii is directed to a flocked article including flock 3, and an adhesive attaching the flock 3 to an elastic sheet 2. The elastic sheet 2 is a knitted fabric. A smoothability resin, such as polyurethane, can be applied to the opposite side of the sheet 2. Shingii says nothing about the properties of the elastic sheet and, according to the Examiner, teaches that the smoothability resin is applied continuously to the opposite side of the sheet 2.

Klein

Klein is directed to a flocked loosely knit fabric. The fabric 104 is coated with a flock binder or adhesive to which flock 102 is applied. Thereafter, the coated substrate is held for a sufficient time to allow the binder to migrate through the substrate to the opposite side thereof. A particulate material is then applied to the opposite side of the substrate whereby it is secured to the substrate by virtue of the migrated binder. “[T]he product obtained does not have a continuous film or sheet of binder or adhesive thereon.” (Col. 1, lines 66-69.) The discontinuously applied adhesives do not “interfere with the air and moisture permeability of the laminate.” (Col. 2, lines 26-28.)

The article is manufactured by coating a support sheet 103 with the first binder (release) adhesive, the first binder adhesive is then flocked, the flocked sheet is then removably contacted to the fabric 112, the free side of the fabric is coated with a second binder adhesive (which

migrates to the side of the fabric that is in loose contact with the flock), the free side of the fabric is flocked, and finally the second binder adhesive cured to provide the article of Fig. 1 (which excludes the first binder adhesive and sheet 103).

Abrams

Abrams is directed to a stretchable hot melt applied to a transfer so that the transfer may stretch when it is applied to a stretchable substrate without cracking or splitting. The hot melt is made from an extrusion of polyester and urethane combined in a ratio of between 80:20 and 20:80.

A transfer 2 includes a dimensionally stable paper sheet 4 to which a conventional flock transfer release adhesive 6, usually a silicon wax, is applied. Flock 8, which may be rayon or any other type of conductive material, such as nylon, polyester, etc., is applied to the activated adhesive 6 by conventional electrostatic means or gravity. The flock 8 is coated with a binder adhesive 10, such as a water based acrylic which binds the flock into a unit. The binder 10 may contain an additional adhesive or hot melt, for binding the transfer to a substrate 14, such as an item of clothing. Alternatively, a hot melt layer 12 may be applied to the binder 10. The use of a separate hot melt layer is preferred.

FIG. 2 discloses the application of elastomeric backing for flock transfer, and the constructed flock transfer in general, to a stretchable item of clothing, such as a sock. As is readily known, when an item of clothing of this type is applied upon the foot, it stretches significantly, as that portion of the sock bearing the flock passes the wider part of the foot, for movement and locating up upon the ankle. Hence, under normal conditions, when the standard type of flock is used, eventually, they crack, and after repeated washings, deteriorate significantly. But, through the usage of an elastomeric type of adhesive backing for the flock, the adhesive holding the flock has stretchability, along with the sock, and therefore, once the sock reaches steady state, the flock re-establishes its original size, and remains integral and attractive in its appearance.

The references individually and collectively fail to teach or suggest (and in fact teach away from) a flocked article having a substantially continuously distributed first adhesive layer in contact with the flock and elastic film and a substantially discontinuously distributed second adhesive layer in contact with the opposite side of the elastic film (Claims 1 and 23) let alone the use of a non-web adhesive as the first adhesive layer and a web adhesive as the second adhesive layer (Claim 35). According to the Examiner, Shingii discloses continuous adhesive layers used on opposing sides of the elastic sheet while Klein clearly teaches that both adhesive layers are discontinuously applied.

The Examiner's response is that "it is well known in the art of flocking to employ discontinuous adhesive layers . . . to improve the flexibility of a flocked substrate as compared to a continuous adhesive layer." However, the teaching of Klein to use only discontinuously applied adhesive layers contradict the teaching of Shingii to use only continuously applied layers. Additionally, Shingii teaches that such continuously applied layers are desirable for providing elastic properties, which is contrary to the Examiner's stated motivation to modify Shingii to realize the present invention.

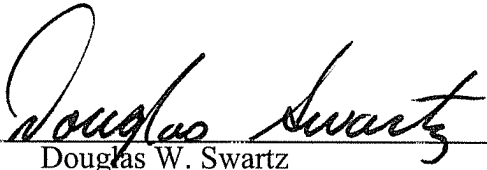
As noted, neither reference teaches the use of a web adhesive with the elastic film. The Examiner counters by saying that a "web" adhesive is made of sets of filaments and that the "web of filaments is descriptive of the form of the adhesive before activation". "Web" adhesives have a clear meaning to one of ordinary skill in the art of adhesive formulations. The fact that the web adhesive has a particular form before activation is irrelevant. It is well known that an intermediate product can be claimed. Even after thermal activation, it is believed that the adhesive will be unevenly or discontinuously distributed. This is believed to result in the surprising properties of the articles of the present invention.

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Based upon the foregoing, Applicants believe that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

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